

WHAT IS CLAIMED IS:

1. An embolization device, comprising:
 - a collagenous biomaterial (12);
 - 5 a radiopaque marker (18) disposed on the collagenous biomaterial (12); and
 - the collagenous biomaterial (12) having a thrombogenic component.
- 10 2. The embolization device of claim 1, wherein the collagenous biomaterial comprises a biocompatible submucosa (10).
3. The embolization device of claim 2, wherein the collagenous biomaterial further comprises a submucosa (10) having an endotoxin level
15 less than 12 endotoxin units per gram.
4. The embolization device of claim 2, wherein a pharmacologic agent is (14) disposed on the collagenous biomaterial.
- 20 5. The embolization device of claim 4, wherein the pharmacologic agent further comprises at least one of a growth factor, protein, proteoglycan, glycoprotein, glycosaminoglycan, physiological compatible mineral, antibiotic, chemotherapeutic agent, pharmaceutical, enzyme, genetic
25 material, and hormone.
6. The embolization device of claim 2, wherein the collagenous biomaterial further comprises a lyophilized component.

7. The embolization device of claim 2, wherein the thrombogenic component further comprises at least one of a brush-like, braided, branched, coil, cubic, cylindrical, helical, injectable, layered, randomized, sheet-like, spherical, and tubular component (16).

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8. The embolization device of claim 1, wherein the collagenous biomaterial further comprises at least a tunica submucosa and a lamina muscularis mucosa of an intestine.

10 9. The embolization device of claim 1, wherein the thrombogenic component further comprises a backbone and the collagenous biomaterial further comprises submucosa.

15 10. The embolization device of claim 1, wherein the thrombogenic component comprises at least one thrombogenic fibril.

11. The embolization device of claim 1, wherein a collagenous biomaterial further comprises submucosa and the thrombogenic component further comprises a coil.

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12. The embolization device of claim 11, wherein the thrombogenic component further comprises the coil having at least one thrombogenic fibril.

25 13. The embolization device of claim 1, wherein a pharmacologic agent is disposed on the collagenous biomaterial.

14. The embolization device of claim 13, wherein the pharmacologic agent is taxol, or a taxol derivative.

15. The embolization device claim 1, wherein the collagenous biomaterial further comprises at least one of a urinary bladder, pericardium, basement membrane, amniotic membrane, tissue mucosa, gastric submucosa, and stomach submucosa tissues.
16. The embolization device of claim 15, wherein the collagenous biomaterial further comprises a biocompatible tissue.
17. The embolization device of claim 15, wherein a pharmacologic agent is disposed on the collagenous biomaterial.
18. The embolization device of claim 17, the pharmacologic agent (14) further comprises at least one of a growth factor, protein, proteoglycan, glycoprotein, glycosaminoglycan, physiological compatible mineral, antibiotic, chemotherapeutic agent, enzyme, pharmaceutical, taxol, taxol derivative, genetic material, and hormone.
19. The embolization device of claim 15, wherein the collagenous biomaterial further comprises a lyophilized component.
20. The embolization device of claim 15, wherein the collagenous biomaterial further comprises at least one of a brush-like, braided, branched, coil, cubic, cylindrical, helical, injectable, layered, randomized, sheet-like, spherical, and tubular component. (16).
21. The embolization device of claim 15, wherein the thrombogenic component further comprises a central backbone and the collagenous biomaterial further comprises submucosa.

22. The embolization device of claim 15 wherein the thrombogenic component comprises at least one thrombogenic fibril.

23. The embolization device claim 15 wherein the thrombogenic component comprises a coil.

24. The embolization device claim 23, wherein the coil further comprises at least one thrombogenic fibril.

25. The medical device, comprising:
a means for filling a blood vessel or an aneurysm; and
a radiopaque marker disposed on the means.

26. The medical device of claim 25, wherein the means for filling includes a collagenous biomaterial, the collagenous biomaterial comprising at least one of a submucosa, pericardium, basement membrane, amniotic membrane, mucosa, liver, gastric submucosa, stomach submucosa, and urinary bladder submucosa.

27. A method for occluding a vascular vessel, comprising delivering to the vessel an embolization device comprising submucosa so as to occlude the vascular vessel.

28. The method of claim 27, wherein the embolization devices comprises a coil.

29. The method of claim 27, wherein the submucosa is porcine submucosa.

30. The method of claim 27, wherein the embolization device comprises at least one sheet of submucosa.